DOCUMENT RESUME

ED 055 672 PS 005 165

AUTHOR Selman, Robert L.
TITLE Taking Another's Perspective: Role-Taking Development in Early Childhood.
SPONS AGENCY National Inst. of Mental Health (DHEW), Bethesda, Md.
PUB DATE [71]
NOTE 29p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Age; *Cognitive Development; *Empathy; *Identification (Psychological); Middle Class; Preschool Children; *Role Playing; *Social Development

ABSTRACT

To test role-taking development 60 middle class subjects, 10 boys and 10 girls of each age (4, 5, and 6), were administered a role-taking task designed to enable the role-taker ("S") to make and explain predictions about a peer's responses to a situation in which "S" has information not available to the peer. Results suggested a four-level progression in role-taking skill across the age range examined. The significant correlation between the role-taking levels and both chronological age and another age-related role-taking measure supported the hypothesis that conceptual role-taking is an age-related social-cognitive skill and implied the possible existence of an ontogenetic sequence of role-taking stages. (Author/MK)

ED055672

Taking another's perspective: role-taking development in early childhood

Robert L. Selman[1]
Harvard University

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

PS 005165

Introduction

The influence of Piaget's genetic epistemological approach to the development of the child's conception of physical categories has led to its application to the study of the child's conception of the social world (e.g., Flavell, 1968; Kohlberg, 1963). One strategy of this social-cognitive approach has been to formulate a developmental sequence of the child's orientations of thought relative to some aspect of the social domain, for example, Kohlberg's extensive research on moral judgment stages (1968).

Role-taking, the ability to view the world (including the self) from another's perspective, is explicitly social-interpersonal in requiring the ability to infer another's capabilities, attributes, expectations, feelings, and potential reactions. However, taking another's perspective implies the ability to differentiate the other's view from one's own, and the ability to shift, balance, and evaluate both perceptual and cognitive object input, all of which is clearly cognitive. Role-taking is a prototypical social-cognitive skill.

Egocentrism refers, in part, to the young (from about two to seven) child's inability to perform these role-taking operations. Piaget states that at this pre-operational stage of thinking the child's primary intellectual instrument for organizing representational systems is perceptual. Consequently, since the child focuses on situations in terms of their static

rather than their dynamic features, his perceptual orientation is characterized as "centered," i.e., egocentric (1967). In Piagetian terminology, role-taking ability can be seen as the development of social and cognitive decentering.

The past several years have seen a number of empirical studies in this area, which have verified the developmental nature of social awareness (Baldwin, 1969; DeVries, 1970; Feffer, 1970; Flappan, 1968; Flavell, 1968; Gilbert, 1969). Flavell's pilot-exploratory work with preschool subjects focussed mainly on "perceptual role-taking," the ability to take another's visual perspective but also included a study of "conceptual role-taking," the ability to take another's mental perspective, to impute another's knowledge or intentions. The work of Piaget, Flavell, and others combine to give a picture of role-taking ability as a skill which does not really become fully functional (accurate) until middle childhood, but which shows distinct beginnings as young as ages three or four. However, this early role-taking is rudimentary and inaccurate.

The purpose of the present exploration was to delineate the possible nature of this early role-taking development, to clarify the relation of perceptual and conceptual role-taking, and to search for empirical evidence of the existence of qualitative levels of conceptual role-taking that one would expect to find if the same principles of development as have been posited by Piagetians in the physical domain applied to the social-cognitive domain.

Method

Subjects

The subjects (Ss) were 60 middle-class children, 10 boys and 10 girls at each of ages four, five, and six, attending preschool or elementary school in the Boston area. Occupational and educational level of parents was ascertained to control for homogeneity of social class.

Procedure

Each S was administered two role-taking tasks (RTT 1 and RTT 2) designed to examine the ability to take another's perspective. RTT 1, devised in a pilot study by the author, was designed to explore the development of both conceptual and perceptual role-taking, with an emphasis on the former. RTT 2, an age-related, binary choice, social guessing game (DeVries, 1970) was used as a benchmark of comparison along with chronological age for the categories of role-taking derived from RTT 1 responses.

RTT 1. A major goal of the study was to have the young child evidence any role-taking skill he possessed. This task was designed to fulfill this goal by attempting to meet the following criteria (Flavell, 1968): first, to differentiate as well as possible between perceptual and conceptual role-taking while lending itself to a comparison of the two; second, to convey as unequivocally as possible to the child that he should engage in role-taking activity; third, to repeat the task with different sets of materials to increase

concept validity; fourth, to be natural and game-like (as opposed to test-like), to represent a plausible and realistic role-taking experience for the child.

RTT 1 makes use of a house-like apparatus constructed of tri-wall cardboard, designed to enable the S (role-taker) of the experiment to gain access to information not available to another child (designated chooser, C). C is required to make several choices in the game situation which S is asked impute. Figure 1 shows two views of the apparatus.

Insert Figure 1 about here

This large apparatus (approximately 5' x 5') contains three rooms: the choosing room, the watching room, and the secret room. The window running along the center wall, (X), allows S in the watching room to view both of the other rooms. However, a child seated in the choosing room can see only into the watching room; a wall obstructs his view of the secret room. There are chairs in the watching and choosing rooms. Two parallel wooden dowels run the length of the secret room and part way into the choosing room.

The procedure involves two distinct but related parts.

1. Part 1 involves the evaluation of perceptual role-taking ability. S is shown the role-taking apparatus and told it is a special house for thinking and playing games with E and with S's friends. E shows S the house and the

three rooms in the house, and he labels each of the rooms. (In Part 1, a large toy hangs from one of the dowels in the secret room.) Half of the Ss sit in the choosing room first, (the other half sit in the watching room first,) and E takes the other seat. S is then asked the following series of questions designed to assess his understanding of the different perspectives possible within the experimental situation.

Orientation question: How many rooms are there in this house?

(If S does not indicate three, E renames each room, and tells S that there are three rooms.)

1. Which one of us, you or me, can see into more rooms in this house: who can see into more rooms?
2. Which one of us can see the toy (hanging from a dowel in the secret room)?
3. If I were sitting in your seat, and you in mine, which one of us could see into more rooms?
4. If I were sitting in your seat, and you in mine, which one of us could see the toy?

By combining responses on the first two questions and on the last two, three stages, Fail, Half-pass, and Pass, are obtained. Fail indicates no correct responses, correct response to at least the first two questions is noted as Half-pass, and correct response to all four questions is Pass. These qualitative ratings were used in the data analysis for three reasons. (1) A natural theoretical division exists between

PS 005165

the first two and the last two questions. The first two ask what S and E can see; the second two ask what they could see if they were in different positions. (2) Empirically, it turned out that an overwhelming majority of Ss got none, the first two, or all four right, thus supporting the validity of the theoretical divisions. (3) These qualitative categories seem to say more than pure quantitative scores (0-4) would because they reflect not only how many questions were correctly answered, but which ones.

After completing this set of questions, E and S change seats, and the questions are repeated. Two scores are obtained: S's perceptual role-taking from the choosing room (PRTC) and the watching room (PRTW).

2. Part 2 is a two step procedure for the analysis of conceptual role-taking. The first step is modelled after the Concept-Sorting Task developed by Kagan (1965). No actual role-taking is involved here. It is included to ascertain S's spontaneous association of two out of three items in order to gain awareness of S's set for use in step 2. S is shown three sets of items with three items per set. For each set, items are labelled by E with their common names and S is asked, "Which two of these three things go together?" "Why?" Set A, the practice set, is used to make sure that S understands the nature of the task. Sets one and two consist of three small toys. Set one is a black horse, a red Indian, and a red airplane. Here there are three possible logical sorting

relations; the horse and the Indian (he rides it), the horse and the airplane (people ride them), and the Indian and the airplane (both are red). Set two consists of toy dinosaurs; two are white, but one of the white ones is the same kind as the third dinosaur, which is red. The sorting within this set can be according to color or kind.

The second step, assessment of conceptual role-taking skill, rests in part on the knowledge obtained in Step one of relational concepts naturally expressed by the S. S's peer, acting as chooser (C), is brought into the testing situation and seated in the choosing room. S sits in the watching room. Then either set one or set two is shown to both S and C. (For half the Ss, set one is used first; set two is first for the other half. Each S is given both sets; the first set presented is identified as conceptual role-taking task one, CRT 1, and the second set presented as CRT 2.)

Two of the three items in the set are placed on the dowels in the choosing room, in front of C, and one is hidden on the other end of one dowel in the secret room, out of C's view from the choosing room but not out of S's view from the watching room. The arrangement of the three items is a function of the relational grouping that S made in Step 1. Of the two items S saw as related in Step 1, one is placed in the secret room and one on the opposite end of the other dowel in the choosing room. The third item is placed in the choosing room on the opposite end of the dowel holding an

item in the secret room. In other words, the related pair is split between the choosing and secret rooms on different dowels; the unrelated item is also in the choosing room, on the opposite end of the dowel that is occupied in the secret room. The dowels are labelled for the children according to the items on them in the choosing room. To clarify by example, if in Step 1, S indicated that the relation was between the Indian and the horse, then the airplane and the horse are placed in the choosing room, and the Indian in the secret room on the end of the airplane stick. Following are sample instructions using this example: (see Figure 1)

> Today we are going to play some games together. Listen carefully while I tell you how to play. Here are three toys: a horse, an airplane, and an Indian. I am going to put the horse on this stick and call it the horse stick. I am going to put the airplane on this stick and call it the airplane stick. Now I am going to hide the Indian in the secret room on one of the sticks; on either the horse stick or the airplane stick (E hides the Indian on the airplane stick). In a minute, I am going to ask (C's name) to guess on which stick I have hidden the Indian. (C's name), I want you to think for a minute before you guess. In the meantime, (S's name) and I are going to move into the other room for a minute (out of hearing but not out of sight) and have a talk.

The following questions were asked of S:

1. Which stick is the Indian (in this example) on? (assessment of perceptual accuracy).
2. Can (C's name) see which stick the Indian is on? (assessment of perceptual role-taking).
3. Which stick do you think (C's name) will guess the Indian is on? Why? (assessment of conceptual role-taking). (If S attributes reasoning similar to his own to C, then he will probably think C will make the choice he (S) made on the Concept-Sorting Task. However, the content of S's choice, i.e., the stick which he thinks C will choose, is less relevant here than the structure of S's thinking, i.e., why he thinks C will make a particular choice, the reason S gives for his attribution of a choice to C.)
4. Which stick would you guess the Indian was on if you were in the choosing room and did not know the answer? Why? (used for clarification of S's reasoning).

S and E then return and C is allowed to make his choice. Further informal discussion is initiated when clarification is needed.

On the basis of a pilot study with 30 children divided evenly among the age range 4 to 6, four ordered categories (Levels) were defined for RTT 1. (The Results section to follow elaborates on the nature of the Levels.) S's responses were scored by Level from transcriptions of tape recorded sessions. Reliability between E and a naive scorer familiar only with the Levels was .86 for the sample (product-moment

correlation). Percentage agreement in assigning Levels was .82.

RTT 2. DeVries (1970), using a simple guessing game, has described stage changes in competitive guessing and hiding behavior in terms of increased role-taking ability. In this standardized procedure, E shows S a penny and then tells him that he (E) is going to hide the penny behind his back in one of his hands. E then brings forth both closed hands and asks S to guess which hand the penny is in. This is repeated for a total of eleven trials. In the first six trials S is positively reinforced. (There is a penny in both hands; S cannot fail.) Four failure trials follow (penny is in neither hand), and this is followed by a final success trial. Then the child is invited to act as hider for ten trials. DeVries has developed a ten point scale, cumulative in nature, i.e., the passage of an item presupposes passage of all lower items on the scale. Thus, in the present study, S's score on RTT 2 was the highest item passed on the DeVries scale. (See DeVries, 1970, for a description of the 10 stages.)

Because scores at stages one through five of this task generally indicate a lack of any ability to differentiate one's own perspective from another's, in the statistical analysis to follow, RTT 2 has been compressed from ten to six scale points (0-5, 6, 7, 8, 9, and 10).

Results

The analysis of data was designed to clarify the following issues: (a) the description of RTT 1 Levels insofar as they describe a sequence of role-taking development, (b) the

relationship between chronological age and the measures of role-taking (see Tables 1 and 2, Figures 2 and 3), (c) sex differences in role-taking ability (see Table 1), and (d), the relationship among the role-taking measures themselves (see Figure 4). Statistical analysis was also applied to the examination of role-taking skill in relation to the content of the task, the order of task presentation, and the effects of age on these factors.

Role-taking task 1

On the basis of S's responses to this task the following four Levels of role-taking ability were formulated.

Level A: S disregards his own conception of the relation between items (as previously expressed in Step 1) and attributes his own (perceptually correct) view to C. S gives as his reason for this attribution the actual correctness of the response, ignoring the fact that C cannot see the correct answer. For example, "He will guess the airplane stick (the Indian is hidden, in fact, on the airplane stick), because that's the one we put it on." At Level A the child really answers the question, "What is the right answer," rather than "What does C think the right answer is." This type of response appears to be an example of classical preoperational egocentrism. In addition to thinking that the other child will make a choice identical to his perceptual view, Level A reasoning indicates that if S had perceptual awareness of different views, (awareness of the limited spatial perspective of the other), he has discarded or

lost this awareness in the presence of the overwhelming perceptual reality of the situation.

Level B: S clearly indicates that C cannot see the correct answer and that this has implications for C's choice, whatever that choice may be. However, S goes on to deny that he himself can make any attribution to C at all, and clearly refuses to guess which choice he (S) thinks C will make. S's reason for not making a guess is specifically that he does not know which stick C will choose. Typically S will respond to probing questions in terms of his inability to know what the other person is thinking (e.g., "I can't read his mind"). This level reasoning is immature in that it goes no farther than understanding that the other's view is different from one's own.

Level C: S can attribute a solution to the other by using his own ability to put himself in a hypothetical situation. At this Level, S progresses to inferring what the other's view is by imagining what his own would be under the other's circumstances. Although S hypothesizes that C's choice will be based on the information available to C, S estimates that C will choose the incorrect answer because (S reasons) C will make the same sorting relation that S did in Step 1; i.e., in trying to think as C will, S attributes the same reasoning process to C that he himself earlier used. For example, if S sees horses and Indians as related, he reasons that "He (C) will choose the horse stick; he will think that Indians go with horses." Or if S sees horses and airplanes as related, "He'll guess the airplane, because you ride both."

Level D: S indicates that C does not know or see the

correct response, that C may choose on the basis of the logical sorting of the items (similar to S's own previous sorting) in the tasks (as in Level C), but S further indicates an awareness that C may make his choice on the basis of other factors built into the game situation or even into C's personality, or on the basis of C's perceiving the intentions of E, some hypothesized trickery, or other characteristics of the items or situation S himself is unaware of. In effect, a Level D response may sometimes appear similar to Level B in content, i.e., in that the S may indicate that he does not know what C will choose. However, whereas at Level B S implies that he is unable to know what C will choose, at Level D S implies that his hesitation in making an attribution is not due to an inability to in general impute another person's thoughts and feelings, but is due rather both to his inaccuracy as a role-taker and to the presence of various influences impinging on C's choice above and beyond the relation between items in the set.

Perceptual role-taking (PRTW and PRTC). (Part 1 of RTT 1.) Both PRTW (watching room) and PRTC (choosing room) were significantly associated with age ($p < .05$ and .01 respectively) but not with sex. (See Tables 1 and 2.) There was no significant difference in performance related to presentation order. As Table 2 details, by age five, nearly all Ss have mastered this task, at age four about forty percent show mastery.

Insert Tables 1 and 2 about here

Conceptual role-taking (CRT 1 and 2). (Part 2 of RTT 1.) There was a significant association between age and each CRT measure. This was not true for sex. (See Table 1.) The correlation between CRT 1 and 2 (first and second trials) was .88, with Ss scoring slightly higher on CRT 2 than on CRT 1. CRT 2 had more Level D responses (16) than did CRT 1 (6) but the differences in CRT distributions were not statistically significant ($x^2 = 1.77$, 1 d.f., n.s.). (See Table 3.)

Insert Table 3 about here

Figure 2 shows that Level A declines over the age range of four to six, Level B does so less quickly, Level C peaks at age five and then declines, and Level D appears (if at all) rarely before age 6.

Insert Figures 2 a and b about here

There was no significant difference in Level according to item set, i.e., Ss did equally well on the horse-Indian-airplane and the dinosaur task materials. (Furthermore, an analysis of the sorting choices made on both sets indicated that there were no sex or age differences in the actual sorting that the S did for the horse-Indian-airplane set. However, the dinosaur trial showed age developmental sorting preferences. The younger Ss sorted predominantly by color whereas the older

Ss sorted mostly by kind [$\chi^2 = 8.75$, 2 d.f., $p < .02$].)

Role-taking task 2

This task was significantly associated with age, as was reported by DeVries (1970), but not with sex. Figure 3 shows that scores at stage 6 disappear by age 5, and that stages 9 and 10, the highest stages, first emerge at about age 6.

Insert Figure 3 about here

Relation Among RTT Measures

To clarify the development of conceptual role-taking as discussed here (CRT Levels), it is necessary to analyze its relation to perceptual role-taking and to RTT 2. For the sake of conciseness in the following figure, only CRT 1 data are presented. However, the results are similar for CRT 1 and CRT 2. Figures 4a and b show the relation between CRT Levels (A-D) and PRTW and PRTC scores.

Insert Figures 4a and b about here

Only those Ss at CRT Level A have not almost uniformly obtained the highest score possible (Pass) on both PRTC and PRTW. For example, 100% of the Ss at Levels C and D and 84% at Level B on the CRT 1 task have passed PRTW, whereas only 40% of Ss at Level A have done so. The same pattern holds true for CRT 1 and PRTC as well as for CRT 2 and both PRT measures. No S who failed the perceptual role-taking tasks

scored above Level A on the conceptual role-taking tasks.

The correlations between RTT 2 and both CRT 1 and 2 were .66. (Both significant at $p < .01$.)

Discussion and Summary

The results of this study give a preliminary description of steps in the emergence of the preschool child from his egocentric social-cognitive perspective. The cross-sectional data presented support the hypothesis that conceptual role-taking is an age related developing social-cognitive skill; the high correlation between chronological age and the conceptual role-taking Levels as well as the high correlation between the DeVries behavioral role-taking task and conceptual role-taking implies the existence of the following sequence of social thinking.

Level A. Child may have a sense of other, but fails to distinguish between the thoughts and perceptions of other and self.

Level B. Child's sense of self is distinguished from other, but he fails to see any commonality of thoughts between self and other.

At Level B the differentiation of S's and other's viewpoints is made. This is indicated by the fact that it is preceded by accurate perceptual role-taking. It is reasonable to expect perceptual role-taking to precede Level B; conceptual role-taking on this task seems to logically demand perceptual competence.

Level C. Child attributes his own ideas to other because he hypothetically puts himself in other's position but sees other as having interests similar to his own.

(Interesting support for the formulation of this Level comes from the fact that no Level C S attributed a relational sorting choice to C that was different from his (S's) own.)

Two further points should be made about the Level C response. First, although more integrated and complex than the previous Levels, it is still egocentric in the sense that the child can be at Level C and not really account for the particular other's different perspective, i.e., the child naively assumes other's thoughts to be the same as his own would be if he were in the other's situation.

Second, both logically and empirically, this Level of response can be considered a baseline of ability; i.e., Ss classified here may be underrated in respect to their role-taking skill; comprehension of higher Level role-taking may be available but not evident. This implication is drawn from the fact that the only major difference in Level of response on the two CRT trials was an increase in Level D responses on CRT 2 of eight of twenty-five Ss who scored at Level C on CRT 1. Ss at Levels A and B on CRT 1 stayed the same on CRT 2.

Level D. Child is aware that other has perspectives based on his own reasoning which may or may not be similar to his own.

Since CRT 2 is essentially a second trial, it is not surprising that, as previously noted, the capability of some

Ss to think at Level D emerges after CRT 1 has been completed, i.e., after a particular strategy has been observed by S. This Level was reached predominantly by the six-year-olds.

This study suggests that four distinctive age related levels of role-taking ability can be defined in the early childhood years from four to six, the later levels, naturally, being more differentiated but not completely free of egocentric components. Recent research examining role-taking development across the primary grades indicates, however, that its development is by no means complete by age six or seven (Flavell, 1968). For example, between the ages eight and eleven there appears to be at least one qualitative reorganization in the sequence; the child acquires the ability in a concrete, limited way to simultaneously take account of both the other's view and of the other's taking his own perspective." This "reciprocal role-taking" (Selman, 1971) clearly opens the door to a wide range of new social-cognitive and interpersonal skills, interests, and insights not available to the younger child. The search for further developmental levels and the validation of the levels elaborated here appear to be empirical issues worth examining.

Baldwin, A. The measurement of social expectations and their development in children. Monograph of the Society for Research in Child Development, 1969, 34, No. 128.

Baldwin, J. M. Social and ethical interpretations in mental development. New York: Macmillan, 1906.

DeVries, R. The development of role-taking as reflected by behavior of bright, average, and retarded children in a social guessing game. Child Development, 1970, 41, 759-770.

Feffer, M. A developmental analysis of interpersonal behavior. Psychological Review, 1970 (in press).

Flappan, D. Children's understanding of social interaction. New York: Teachers College Press, 1968.

Flavell, J. The development of role-taking and communication skills in children. New York: John Wiley, 1968.

Gilbert, D. The young child's awareness of affect. Child Development, 1969, 39, 619-636.

Kagan J. Impulsive and reflective children: Significance of conceptual tempo. In J. D. Krumboltz (Ed.), Learning and the educational process. Chicago: Rand-McNally, 1965, 133-161.

Kohlberg, L. The development of children's orientations toward a moral order. Vita Humana, 1963, 6, 11-33.

Kohlberg, L. Stage and Sequence: the cognitive-developmental approach to socialization. In D. Goslin (Ed.), Handbook of socialization theory and research. Chicago: Rand-McNally, 1968.

Piaget, J., and Inhelder, B. The child's conception of space. New York: W. W. Norton, Co., 1967. (originally published in 1948).

Selman, R. The relation of role-taking ability to the development of moral judgment in children. Child Development, 1971, 42, in press.

Footnotes

[1]Author's Address: Harvard University, Graduate School of Education, Larsen Hall, Appian Way, Cambridge, Massachusetts 02138

This research was supported by National Institute of Mental Health Grant 1F02 MH44089-01, a post-doctoral fellowship. The author would like to thank Dr. Lawrence Kohlberg and Dr. Sheldon White for their suggestions. Further thanks go to Mary Small, Elizabeth Klock, and Fern Clark, directors respectively of the Lesley-Ellis, Beacon Hill, and Stern's Village nursery schools, and Ceil Kagan, first grade teacher at the Peabody School in Cambridge.

Table 1

Summary of Chi Square Analyses. Relation of Role-Taking Measures to Age and Sex

MEASURE	AGE (D.F.)			SEX-DIFFERENCES (D.F.)	
RTT 1					
PRTW	p	.05	4	N,S.	2
PRTC	p	.01	4	N.S.	2
CRT 1	p	.01	6	N.S.	3
CRT 2	p	.01	6	N.S.	3
RTT 2	p.	.01	10	N.S.	5

Table 2

Relation of Perceptual Role-Taking to Age. Percentage of Ss Passing PRT Tasks at Each Age

	Age		
Task	4	5	6
PRTC	24%	98%	100%
PRTW	56%	84%	100%

Table 3

Number of Ss at Each Level of RTT 1

	Level			
Task	A	B	C	D
CRT 1	15	13	25	6
CRT 2	13	11	17	16

Figure Captions

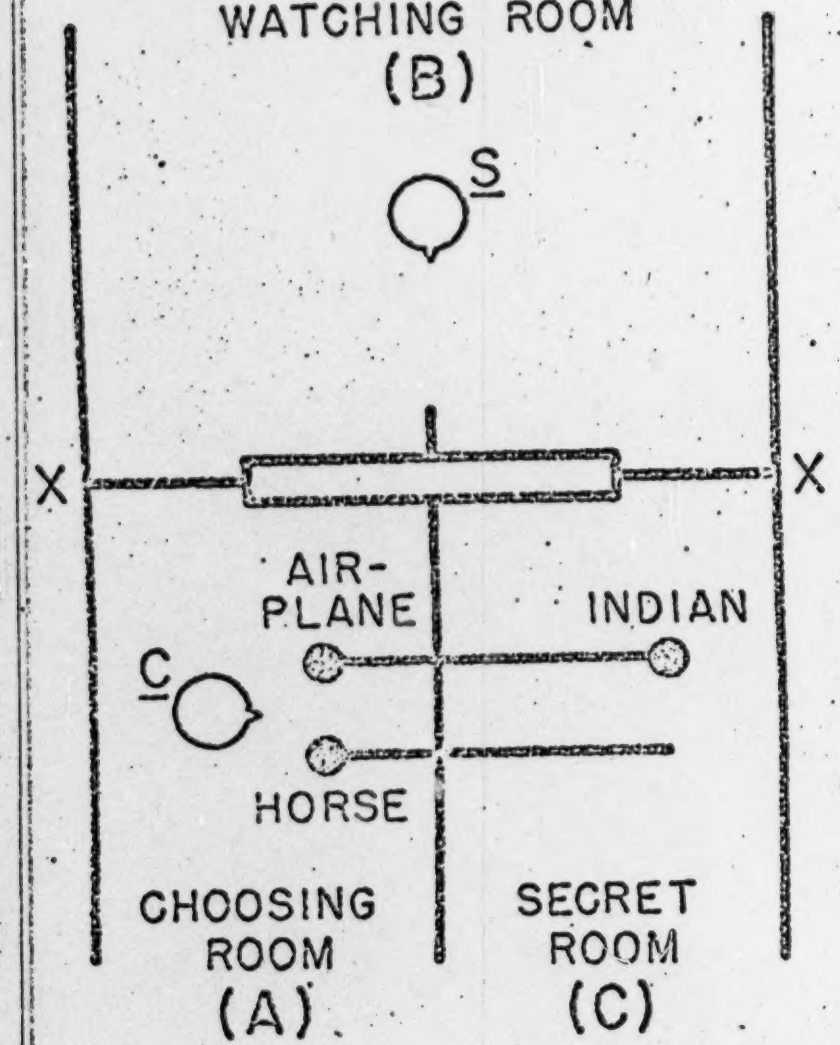
Figure 1: Schematic drawing of role-taking apparatus.

Figure 2: Percentage distribution of each CRT level at each chronological age level.

Figure 3: Percentage distribution of each RTT 2 stage at each chronological age level.

Figure 4: Percentage distribution of each CRT 1 level at each level of PRT tasks.

Overhead view



3/4 view

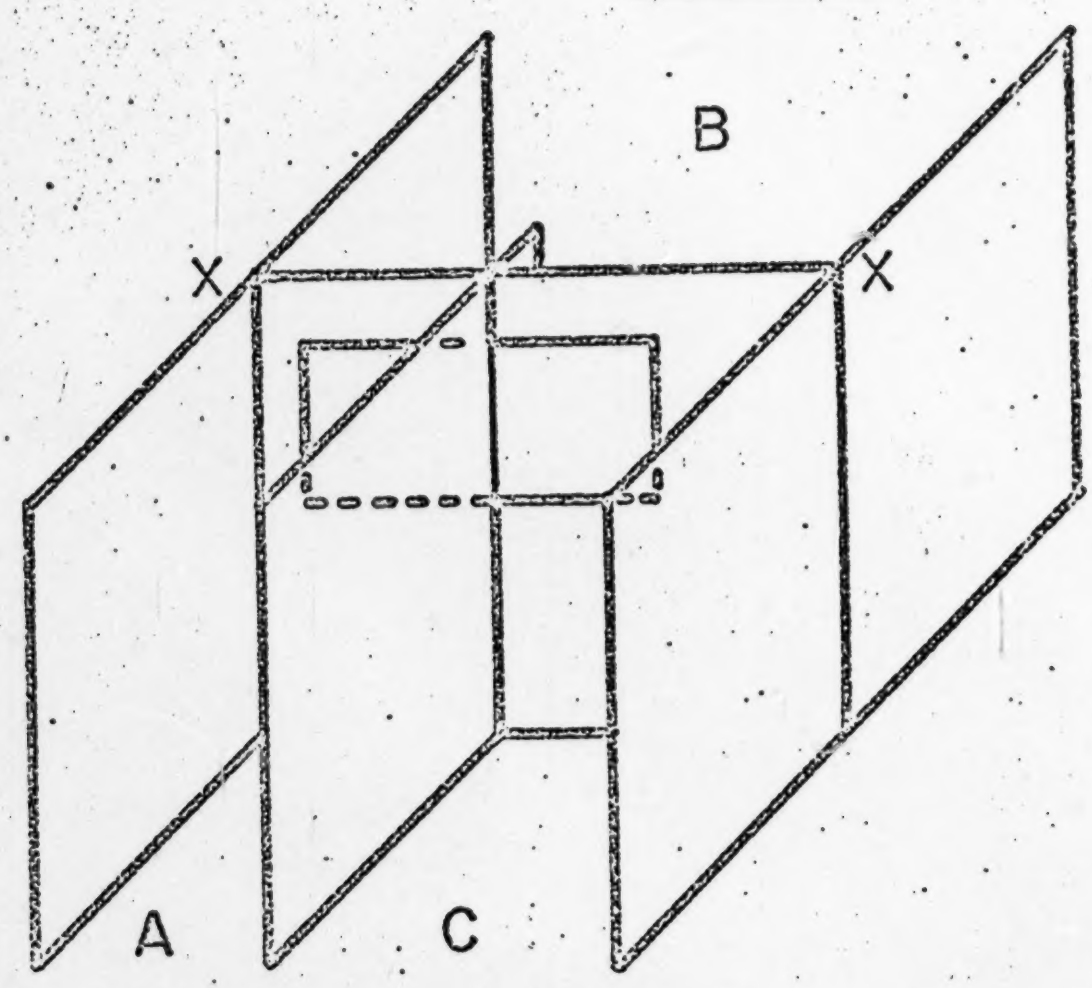
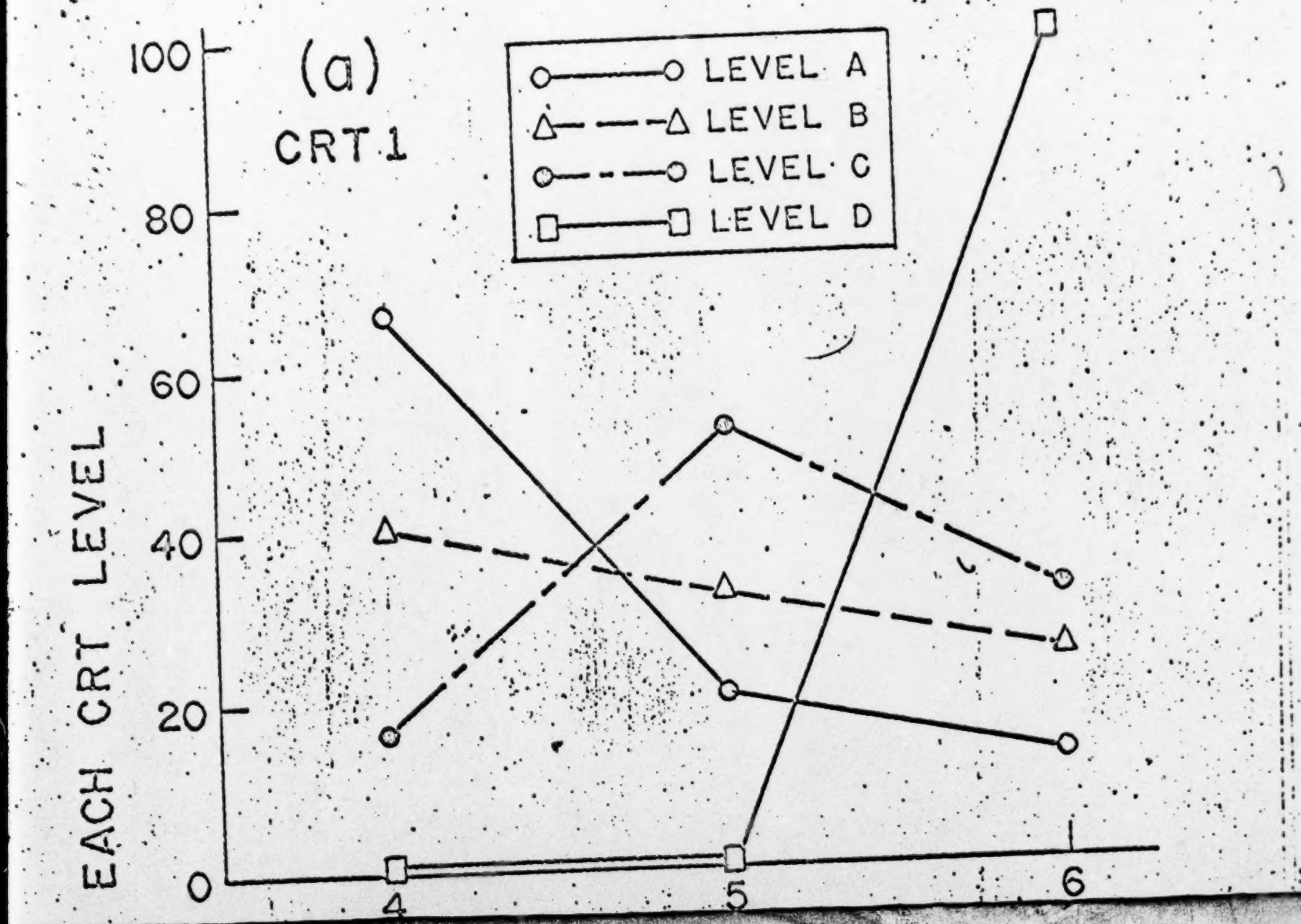


Figure 1

Figures 2 a and b



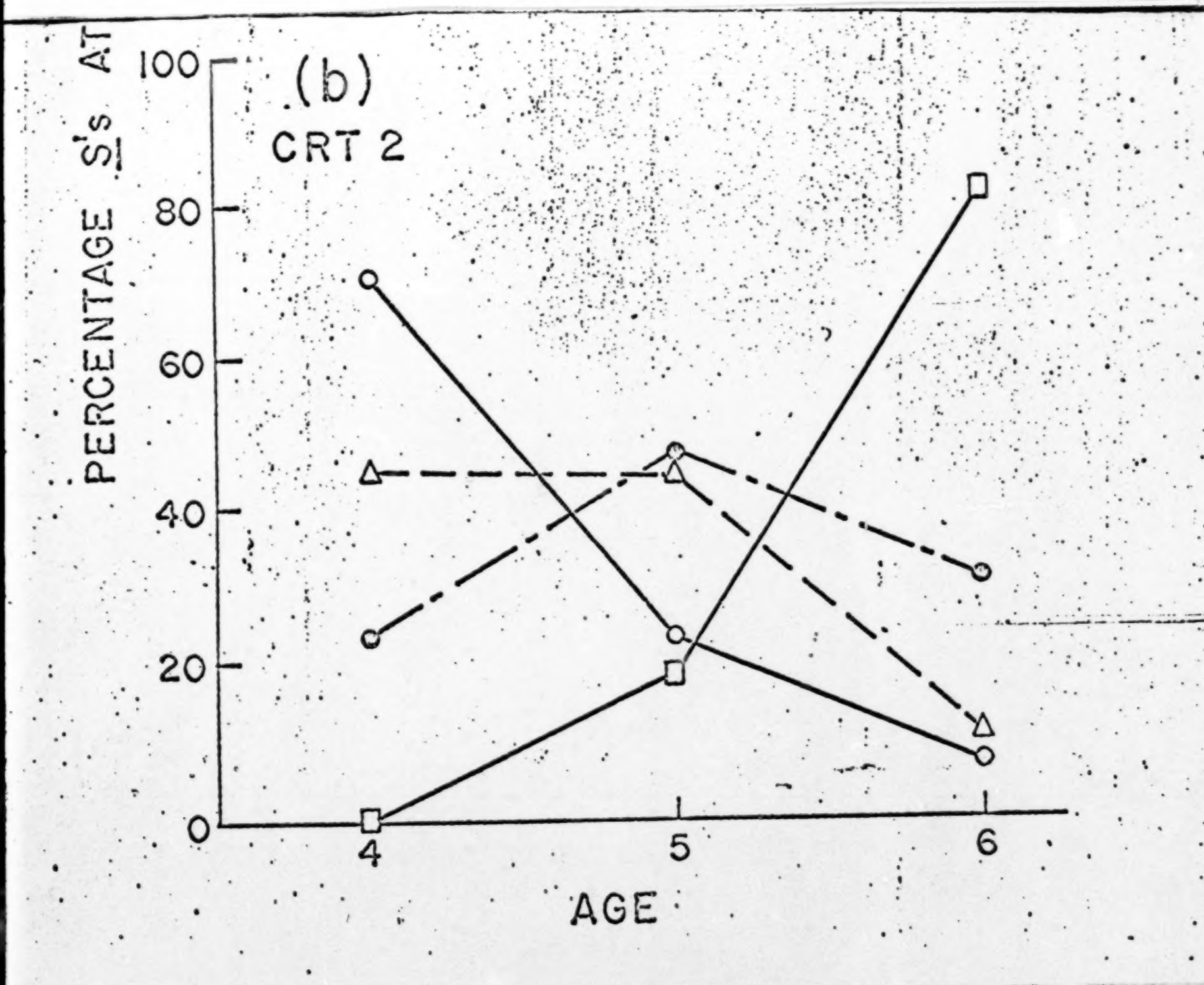
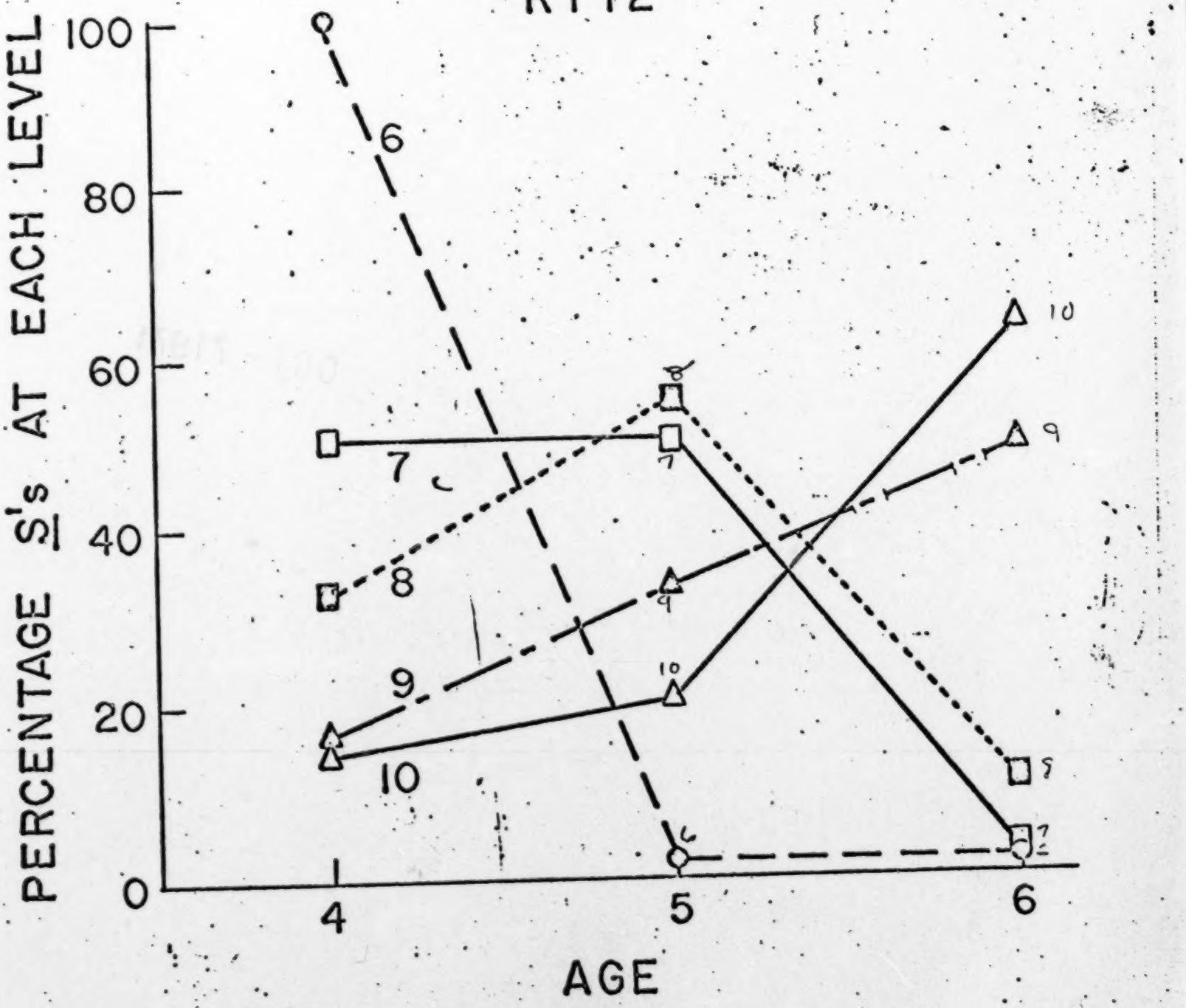

(b)
CRT 2
PERCENTAGE S's AT
100
80
60
40
20
0
4
5
6
AGE

Figure 3


RTT2
PERCENTAGE S's AT EACH LEVEL
100
80
60
40
20
0
4
5
6
AGE
6
7
8
9
10